



PATENT  
81168-306630

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:	)	Art Unit: 1712
	)	Examiner: KUGEL, TIMOTHY J.
WOODS, JOHN R.	)	
	)	
Serial No: 10/696,983	)	
	)	
Filed: October 30, 2003	)	
	)	
For: Divisional of MORE CONTROLLABLE	)	
<u>ACOUSTIC SPRAY PATCH</u>	)	

DECLARATION OF HARRY C. WU RE: UNEXPECTED RESULTS UNDER 37  
C.F.R. 1.132

Commissioner for Patents  
P. O. Box 1450  
Alexandria, VA 22313-1450

Sir:

I, Harry C. Wu, do hereby declare and state as follows:

I. I am an employee of Aerosol Services Co. Inc. and I currently hold the position of Director of Research and Development. I have 29 years of experience in the aerosol industry. I do not have any interest in the outcome of this case. I do not stand to benefit financially or otherwise if a patent is awarded, nor do I expect to be harmed financially or otherwise if a patent is not granted.

II. Experiments:

In approximately 1996, under the direction of John R. Woods, I assisted in conducting the following experiment. It is known in the art that some aggregates, such as polystyrene, are not compatible with liquefied aerosol propellants such as

hydrocarbon, dimethyl ether and Dymel 152a. Hydrocarbon and dimethyl ether are volatile organic compound (VOC) propellants. The experiment clearly demonstrates that an aggregate comprising polystyrene cannot maintain integrity in the presence of such propellants while polyethylene and rubber particulates unexpectedly maintain integrity under similar conditions.

#### EXPERIMENT:

An aerosol can was filled with a ceiling texture material. The ceiling texture material included polystyrene particles as the aggregate. The can was gassed with liquefied aerosol propellant.

- A. Initial spraying of the can approximately 5 minutes after filling the can dispensed the ceiling texture material properly. The polystyrene aggregate was observed.
- B. Spraying of the can approximately 2 hours after filling the can dispensed the ceiling texture material improperly. The polystyrene aggregate was not present.
- C. Further investigation revealed that the liquefied aerosol propellant had degraded the polystyrene in the ceiling texture material.

The same experiment was performed using polyethylene as the aggregate in the ceiling texture material.

- A. Initial spraying of the can approximately 5 minutes after filling the can dispensed the ceiling texture material properly. The polyethylene aggregate was observed.
- B. Spraying of the can approximately 2 hours after filling the can dispensed the ceiling texture material properly. The polyethylene aggregate was observed.

The same experiment was performed using rubber particulates as the aggregate in the ceiling texture material.

- A. Initial spraying of the can approximately 5 minutes after filling the can dispensed the ceiling texture material properly. The rubber aggregate was observed.
- B. Spraying of the can approximately 2 hours after filling the can dispensed the ceiling texture material properly. The rubber aggregate was observed.

### III. Summary

Liquefied aerosol propellants, such as VOC propellants, are preferred to compressed gas propellants because a sprayable material composition can be sprayed

with less pressure when such propellants are used. Using liquefied aerosol propellants provides a desired level of atomization and level of control for the user when spraying. It is well-known in the art that conventional aggregates, such as polystyrene, decompose in the presence of liquefied aerosol propellants, for example, VOC propellants. Thus, there has been a longstanding need for finding an aggregate that is compatible with these propellants. Unexpectedly, an aggregate comprising either polyethylene or rubber particulates, which share similar qualities as polystyrene, does not decompose when used with a liquefied aerosol propellant.

IV. I declare further that all statements made on information and belief are believed to be true, and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment or both under Section 1001 of Title 18 of the United States Code and such willful false statements may jeopardize the validity of the instant patent specification or any patent issuing thereon.

By Harry C. Wu  
Harry C. Wu

Date 4-3-06